

1.1.4 *Melocanna humilis*

Figure 28 shows the distribution of *Melocanna humilis* clumps in BTS map. There are 93 clumps available in BTS, which distribute along the river valley and some in the oil palm and rubber plantation. Only mature culms were founded during the study. The Figure 29 shows the average diameter and height of *M. humilis* mature culms. The result shows that the culms with average diameter about 12.12 cm will develop to 9 m height. The culms height for *M. humilis* also depends on the culms size. Some of the clumps will reach until the maximum height of mature culms.

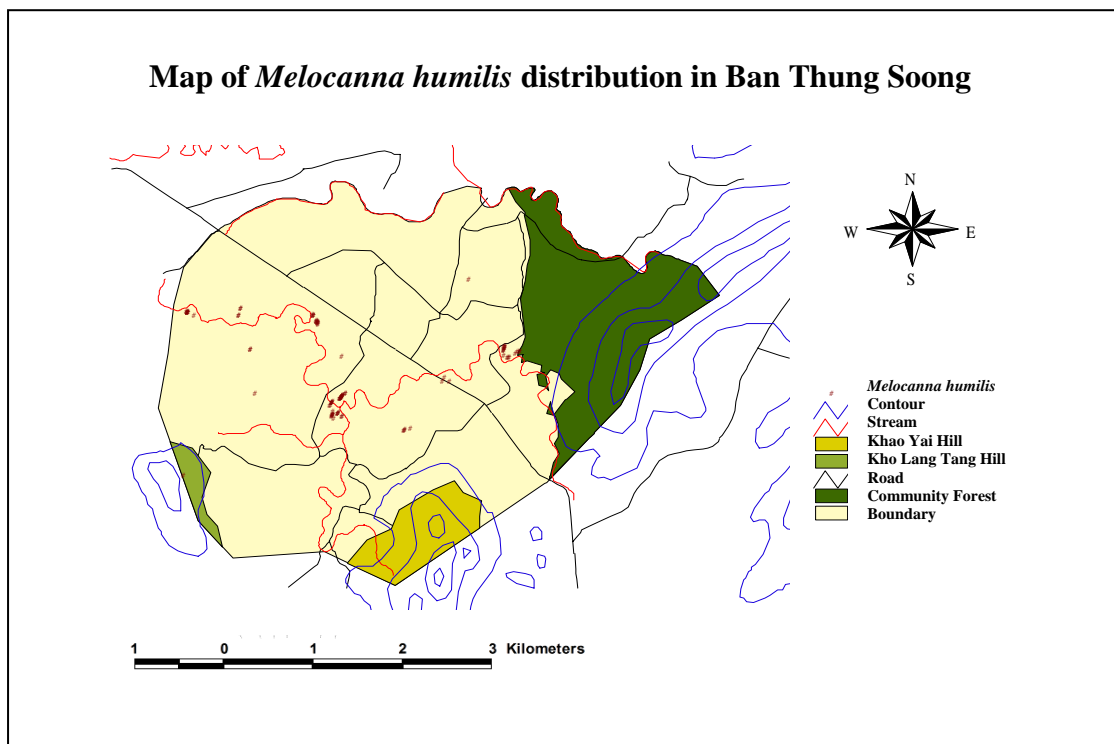


Figure 28 Map of *Melocanna humilis* distribution in Ban Thung Soong

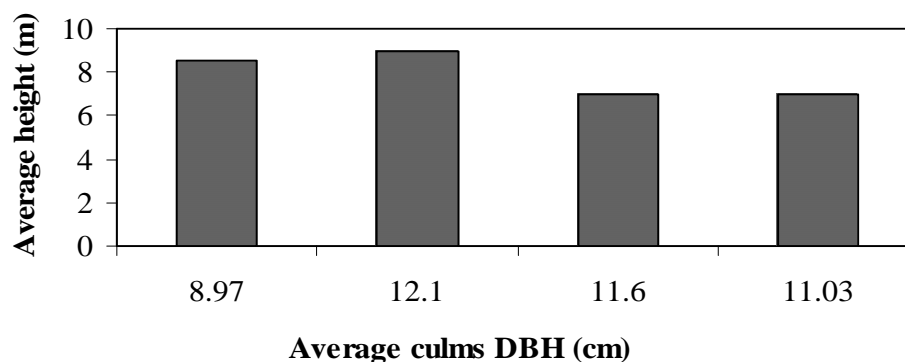


Figure 29 The average culms diameter of *Melocanna humilis* according to the diameter and height

2. Bamboo Uses and Planting in Homestead

People in Ban Thung Soong plant bamboo for their daily purposes such as for collect bamboo shoots and culms. Most of people in BTS use bamboo for their own consumptions. Table 41 shows the people in BTS prefer plant *Dendrocalamus asper* (Phai tong), about 44 % of respondents plant *D. asper* in their homestead. *D. asper* can produce high quality shoots and most of people in BTS like *D. asper* shoot as food. About 72% of respondents answered that *D. asper* was the important bamboo and about 11% respondents report that *Bambusa bambos* was important. Table 42 indicates the period time for bamboo planting by people in BTS. Most of respondents plant bamboo 4 years per time and prefer in the rainy season. In the rainy season, the growths of bamboo shoots were higher than in dry season. According to Dransfield and Widjaja (1995), planting is preferably done at the beginning of the rainy season. Most of respondents obtained average six culms per times.

Most of people in BTS used bamboo shoots for foods than the culms. About 6 respondents used bamboo shoots as food for their own consumptions and only one respondent are used for selling. People also use bamboo culms for household items, agriculture tools, walling, and etc. About 27 % of respondents use bamboo culms for walling, 17% respondents use for making ladder and 6% respondents use bamboo culms for flooring. From the results and interviews outputs, people in BTS use bamboo as main resources for their daily livelihood.

Table 41 Bamboo species planted by respondents

| Type of bamboo species | Frequency | Percentage (%) |
|-----------------------------|-----------|----------------|
| No answer | 10 | 55.6 |
| <i>D. asper</i> (Phai tong) | 8 | 44.4 |
| Total | 18 | 100 |

Table 42 Period of time for bamboo planting

| Period time for planting | Frequency | Percentage (%) |
|--------------------------|-----------|----------------|
| No answer | 12 | 66.7 |
| 4 years | 2 | 11.1 |
| 5 years | 1 | 5.6 |
| > 5 years | 1 | 5.6 |
| Rainy season | 2 | 11.1 |
| Total | 18 | 100 |

2.1 Culms composition and characteristics

Figure 30 shows the relation between bamboo culms development stage classes and average DBH for three bamboo species namely *Dendrocalamus asper*, *Bambusa bambos* and *Melocanna humilis*. The figure indicates the relationship between bamboo culm stages with average DBH. The average culms heights at 0-5 m of the *M. humilis* were recorded the highest average DBH with 3.2 cm. At the stages 5-10 m, the *B. bambos* culms indicates the highest average DBH with 4.6 cm and at the stages 10-15 m, *D. asper* culms reach to the highest DBH with 6.6 cm. At the stages 15-20 m, only *D. asper* and *B. bambos* culms were available to taken as sample. The average DBH decreased at the stages 15-20 m culms development class stages. According to Dransfield and Widjaja (1995), *D. asper* can develop to diameter 8-20 cm at the base with 20-30 m height. In exceptionally brief rainy seasons the growth of *D. asper* decreases and continue when the next rain beginning. The figures of six species of bamboo species were founded in Appendix 4.

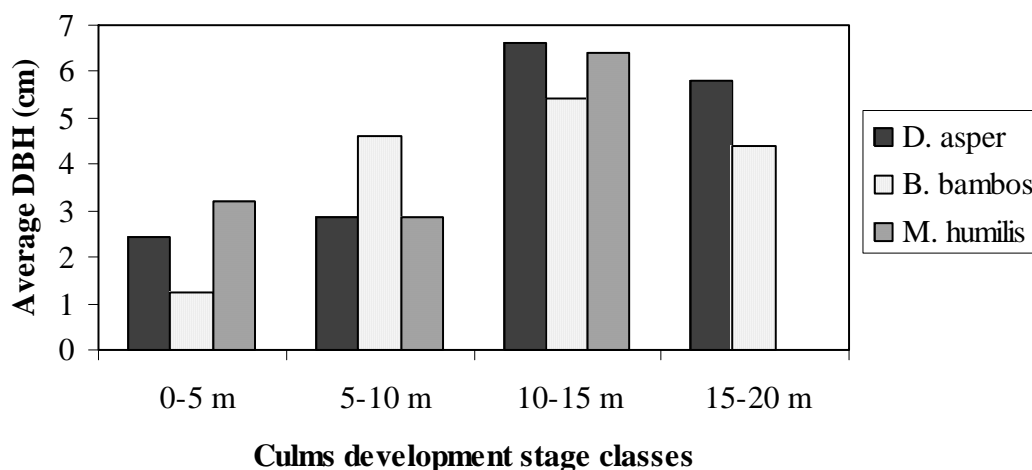


Figure 30 The average DBH of three bamboo species according to culms development stage classes.

The culms composition and characteristics were summarized in Tables 43, 44 and 45 with the different stages of culms height and different bamboo species such as *Dendrocalamus asper*, *Bambusa bambos* and *Melocanna humilis*. The characteristics of *D. asper* culms were shown in Table 43. In Table 44, the wall thicknesses of *B. bambos* culms were different according to the height and diameter. The wall thicknesses in the basal culms were ranged from 0.1 to 0.76 cm, in the middle from 0.1 to 0.4 cm and in the tops from 0.1 to 0.3 cm. Culms characteristics of *M. humilis* were shown in Table 45. The diameters at breast height of culms increased due to the height culms rate. The average diameter (DBH) of *M. humilis* up to 6.4 cm at culm stages 15-20 m. The results of culms development stage classes will provide the information and suitable culms DBH for harvesting as well as to sustain the uses of bamboo. For example, at the stages 10-15 m culms development stage classes the average DBH of bamboo culms was high and suitable to harvest.